

Amendment under 37 CFR 1.114
Serial No. 10/730,061
Attorney Docket No. 032019

REMARKS

Claims 1-4 and 7-17 are pending in the present application. Claims 7-14 are rejected. Claim 7 is herein amended. No new matter has been added.

Applicants' Response to Claim Rejections under 35 U.S.C. §103

Claims 7 and 8-14/7 were rejected under 35 U.S.C. §103(a) as being unpatentable over Konrad (U.S. Patent No. 5,789,167) in view of Wen-Teng et al. (U.S. Patent Application Publication No. 2001/0005718).

It is the position of the Office Action that Konrad discloses the invention as claimed, with the exception of disclosing that the electrodes are "bow-shaped." The Office Action relies on Wen-Teng to provide this teaching. Konrad is directed at a DNA analysis device including a first electrode 120 and a second electrode 130 mounted on planar support 110. As illustrated in Figure 1, Konrad also includes a region 140 of first electrode 120 to which an anchor sequence is attached. However, it appears that Konrad also suggests attaching the anchor sequence to the planar support 110 directly. See column 6, line 58 to column 7, line 16.

Konrad discloses providing an electric field between the first electrode 120 and second electrode 130. Column 15, lines 46-65. Konrad also discloses the use of a magnetic field at column 16, lines 46-67. However, the magnetic field is contemplated as an alternative to an electric field. Konrad does not disclose or suggest using an electric field and a magnetic field simultaneously.

Applicants note that the Advisory Action dated November 14, 2007 did not address the remarks regarding Wen-Teng contained in the Amendment filed on November 1, 2007. Therefore, Applicants herein reiterate these remarks. The Office Action identifies Wen-Teng to teach “bow-shaped” electrodes. Wen-Teng is directed at an apparatus and process for rapid hybridization. Although not illustrated, Wen-Teng discloses that “[t]he electrodes are flat or curved plates made by any conductive materials.” Paragraphs [0041] and [0053]. The Office Action broadly interprets this to read on the recitation of “bow-shaped” electrodes.

In response, Applicants respectfully submit that although Wen-Teng discloses flat or curved plates, Wen-Teng does not disclose or suggest that the electrodes are “bow-shaped backwards against said sites.” Wen-Teng merely states that the electrodes are curved plates without further details on their structure relative to a substrate. Thus, Applicants respectfully submit that Wen-Teng does not disclose or suggest electrodes that are bow-shaped backwards against the sites, as required by claim 7 and illustrated in Figure 7.

Furthermore, it would not have been obvious to have the electrodes “bow-shaped backwards against the sites.” If the electrodes are “bow-shaped backwards against the sites,” the distribution of the electric field can be concentrated in the sites, thereby improving the effectiveness of hybridization. The narrower the interval between the electrodes, the stronger the electric field. Wen-Teng contains no suggestion or disclosure of such a specific configuration of electrode or such a benefit. Therefore, for at least the above reasons, Applicants respectfully submit the combination of cited art does not disclose or suggest the invention as claimed.

Claims 7 and 8-14/7 were rejected under 35 U.S.C. §103(a) as being unpatentable over Chen et al. (U.S. Patent Application Publication No. 2003/0087292) in view of Wen-Teng et al. (U.S. Patent Application Publication No. 2001/0005718).

It is the position of the Office Action that Chen discloses the invention as claimed, with the exception of disclosing that the electrodes are “bow-shaped.” The Office Action relies on Wen-Teng to provide this teaching. Chen is directed at a hybridization apparatus utilizing Lorentz force. As illustrated in Figure 34 and discussed at paragraphs [0190] and [0191], the apparatus includes two electrodes, providing an electric field. The apparatus also includes two magnets (not illustrated), which provide a magnetic field perpendicular to the electric field. As a result, “the Lorentz force will push the target molecules to migrate towards the probes on the substrate surface.”

As noted above, Applicants reiterate the above comments with respect to Wen-Teng. Applicants respectfully submit that although Wen-Teng discloses flat or curved plates, Wen-Teng does not disclose or suggest that the electrodes are “bow-shaped backwards against said sites.” Wen-Teng merely states that the electrodes are curved plates without further details on their structure relative to a substrate. Thus, Applicants respectfully submit that Wen-Teng does not disclose or suggest electrodes that are bow-shaped backwards against the sites, as required by claim 7 and illustrated in Figure 7.

Furthermore, it would not have been obvious to have the electrodes “bow-shaped backwards against the sites.” If the electrodes are “bow-shaped backwards against the sites,” the distribution of the electric field can be concentrated in the sites, thereby improving the

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effectiveness of hybridization. As the interval between the electrodes narrows, the electric field becomes stronger. Wen-Teng contains no suggestion or disclosure of such a specific configuration of electrode or such a benefit. Therefore, for at least the above reasons, Applicants respectfully submit the combination of cited art does not disclose or suggest the invention as claimed.

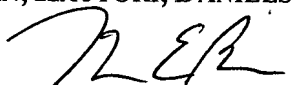
For at least the foregoing reasons, the claimed invention distinguishes over the cited art and defines patentable subject matter. Favorable reconsideration is earnestly solicited.

Should the Examiner deem that any further action by applicants would be desirable to place the application in condition for allowance, the Examiner is encouraged to telephone applicants' undersigned attorney.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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Enclosure: Petition for Extension of Time